STN Search History

FILE 'HOME' ENTERED AT 11:52:18 ON 11 SEP 2003

L1 QUE (MOUSE OR MURINE OR MICE) (P) (FUSIN OR CXCR-4 OR CXCR4 OR CXCR ADJ 4)

L3 420 L2 AND (POLYNUCLEOTIDE OR DNA OR !DNA OR NUCLEIC OR GENE) (P) (FUSIN OR CXCR-4 OR CXCR4 OR CXCR ADJ 4)

L14 1266 (MOUSE OR MURINE OR MICE) (P) (FUSIN OR CXCR-4 OR CXCR4 OR CXCR ADJ 4)

(FILE 'HOME' ENTERED AT 11:52:18 ON 11 SEP 2003)

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 11:52:35 ON 11 SEP 2003

SEA (MOUSE OR MURINE OR MICE) (P) (FUSIN OR CXCR-4 OR CXCR4 OR

5	FILE ADISINSIGHT
2*	FILE ADISNEWS
1	FILE AGRICOLA
1	FILE AQUASCI
3	FILE BIOBUSINESS
0*	FILE BIOCOMMERCE
283	FILE BIOSIS
22*	FILE BIOTECHABS
22*	FILE BIOTECHDS
207*	FILE BIOTECHNO
3	FILE CABA
111	FILE CANCERLIT
231	FILE CAPLUS
1*	FILE CEABA-VTB
1	FILE CEN
3*	FILE CIN
6	FILE CONFSCI
27	FILE DDFU
20	FILE DGENE
41	FILE DRUGU
2	FILE DRUGUPDATES
14	FILE EMBAL
191	FILE EMBASE
176*	FILE ESBIOBASE
56*	FILE FEDRIP
0*	FILE FOMAD
0*	FILE FOREGE
0*	FILE FROSTI
0*	FILE FSTA
44	FILE GENBANK
38	FILE IFIPAT
11	FILE JICST-EPLUS
0*	FILE KOSMET
134	FILE LIFESCI
0*	FILE MEDICONF
220	FILE MEDLINE
0*	FILE NTIS
0*	FILE NUTRACEUT
53*	FILE PASCAL

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                4    FILE PHAR
                1*   FILE PHARMAML
               18    FILE PROMT
              280    FILE SCISEARCH
               90    FILE TOXCENTER
              120    FILE USPATFULL
                5    FILE USPAT2
               24    FILE WPIDS
               24    FILE WPINDEX
L1               QUE (MOUSE OR MURINE OR MICE) (P) (FUSIN OR CXCR-4 OR CXCR4 OR
                 ---------

     FILE 'MEDLINE, CAPLUS, BIOSIS, BIOTECHNO, LIFESCI, EMBASE, SCISEARCH'
     ENTERED AT 11:55:15 ON 11 SEP 2003
L2          1546 S L1
L3           420 S L2 AND (POLYNUCLEOTIDE OR DNA OR !DNA OR NUCLEIC OR GENE) (P)
L4           149 S L3 AND (CD4 OR HCD4 OR T4) (P) (RECEPTOR OR CO-RECEPTOR)
L5            55 DUP REM L4 (94 DUPLICATES REMOVED)
L6            14 S L5 NOT PY>1997
L7            33 S L3 AND MURINE (4N) (FUSIN OR CXCR-4 OR CXCR4 OR CXCR ADJ 4)
L8            12 DUP REM L7 (21 DUPLICATES REMOVED)
L9             3 S L8 AND L6
L10           20 S (L6 OR L8) NOT L9
L11           20 DUP REM L10 (0 DUPLICATES REMOVED)
L12        68765 S (MURINE OR MOUSE) (S) (CD4 OR HCD4)
L13         1546 S L1 AND (FUSIN OR CXCR-4 OR CXCR4 OR CXCR ADJ 4)
L14         1266 S (MOUSE OR MURINE OR MICE) (P) (FUSIN OR CXCR-4 OR CXCR4 OR CX
L15         1546 S L13 AND L2
L16          761 S L13 AND (HIV OR AIDS OR IMMUNODEFICIENCY)
L17           70 S L16   AND ((MURINE OR MOUSE) (A) CELL OR A20)
L18           35 S L17 NOT PY>1997
L19            8 DUP REM L18 (27 DUPLICATES REMOVED)
L20            4 S L19 NOT (L6 OR L8)
```

L9 ANSWER 1 OF 3 MEDLINE on STN
AN 97113334 MEDLINE
DN 97113334 PubMed ID: 8955194
TI Cloning of the **mouse fusin gene**, homologue to a human HIV-1 co-factor.
AU Heesen M; Berman M A; Benson J D; Gerard C; Dorf M E
CS Department of Pathology, Harvard Medical School, Boston, MA 02115, USA.
NC CA67416 (NCI)
NS31152 (NINDS)
SO JOURNAL OF IMMUNOLOGY, (1996 Dec 15) 157 (12) 5455-60.
Journal code: 2985117R. ISSN: 0022-1767.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals; AIDS
OS GENBANK-U65580
EM 199701
ED Entered STN: 19970219
Last Updated on STN: 19980206
Entered Medline: 19970123
AB Previous studies have demonstrated that **mouse** cells do not become infected with HIV-1 despite transfection with human **CD4**. Recently, a human protein termed "**fusin**" with characteristics of a seven-transmembrane-spanning **receptor** was found to be a co-factor required for the entry and fusion of HIV-1 with human **CD4**-bearing lymphocytes. Thus, cloning of the **murine** homologue of the human **fusin** (also termed **CXCR-4**) **gene** could provide an important comparative tool for identification of the structures crucial for **fusin** function. Using degenerate PCR, the **mouse** homologue of human **fusin** was cloned from a peritoneal exudate cell cDNA library. The predicted amino acid sequence is 91% identical to human **fusin**. Twenty-eight of the 37 amino acid differences between **mouse** and human **fusin** are located in the ectodomains, suggesting that the intracytoplasmic components that mediate G protein binding and signaling are highly conserved. Northern blot analysis showed a message of 2.2 kb in thymus, spleen, neutrophils, and primary astrocyte cultures. Lymphoid and monocyte cell lines also expressed message for **fusin**. The coding regions of most chemokine **receptors** lack introns. In contrast, cloning of genomic **DNA** for **mouse** **fusin** revealed the presence of a 2.3-Kb intron separating the first seven amino acids from the remaining 352 residues. Therefore, the **mouse fusin gene** has a unique genomic organization compared with other chemokine **receptors**.

L9 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1997:534140 CAPLUS
DN 127:246942
TI Two **murine** homologues of the human chemokine receptor **CXCR4** mediating stromal cell-derived factor 1.alpha. activation of Gi2 are differentially expressed in vivo
AU Moepps, Barbara; Frodl, Reinhard; Rodewald, Hans Reimer; Baggiolini, Marco; Gierschik, Peter
CS Department Pharmacology Toxicology, University Ulm, Ulm, D-89081, Germany
SO European Journal of Immunology (1997), 27(8), 2102-2112
CODEN: EJIMAF; ISSN: 0014-2980
PB Wiley-VCH
DT Journal
LA English
AB Previous results have shown that pertussis toxin-sensitive Gi proteins are

likely to be involved in regulating the emigration of mature thymocytes from the thymus. A low stringency polymerase chain reaction (PCR) approach was used to identify Gi protein-coupled cell surface **receptors** expressed in **mouse** thymocytes. Among the 10 G protein-coupled **receptor** cDNA isolated, the most prevalent cDNA encoded a polypeptide highly homologous to the human leukocyte-expressed 7-transmembrane-domain **receptor** LESTR, also referred to as HIV entry cofactor, **fusin**, or **CXCR4**. Isolation of full-length cDNA revealed that alternative RNA splicing produces transcripts encoding 2 isoforms of the **murine** LESTR, differing by the presence of 2 amino acids in the N-terminal portion of the longer protein. Functional reconstitution of recombinant **murine** LESTR with recombinant heterotrimeric G proteins in baculovirus-infected insect cells showed that both **receptor** variants mediate stromal cell-derived factor la activation of the pertussis toxin-sensitive G protein Gi2. **Receptor** subtype-specific reverse transcriptase-PCR anal. revealed differential expression of the 2 **receptor** mRNA in lymphoid tissues and brain, indicating that distinct functions are mediated by the 2 **receptor** isoforms in these tissues. The presence of LESTR mRNA in very early thymocytes as well as in immature (**CD4**+ CD8+) thymocytes suggests that both **CD4** and LESTR are co-expressed and render developing human thymocytes susceptible for HIV entry, which may affect generation of both **CD4**+ CD8- and **CD4**- CD8+ mature lineages.

L9 ANSWER 3 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AN 1997:440504 BIOSIS
DN PREV199799739707
TI **Murine CXCR-4** is a functional coreceptor for T-cell-tropic and dual-tropic strains of human immunodeficiency virus type 1.
AU Bieniasz, Paul D.; Fridell, Robert A.; Anthony, Kara; Cullen, Bryan R. (1)
CS (1) Box 3025, Duke Univ. Med. Cent., Durham, NC 27710 USA
SO Journal of Virology, (1997) Vol. 71, No. 9, pp. 7097-7100. ISSN: 0022-538X.
DT Article
LA English
AB The human chemokine **receptor** hCXCR-4 serves as a coreceptor for T-cell-tropic (T-tropic) and dual-tropic strains of human immunodeficiency virus type 1 (HIV-1). We have isolated a homolog of hCXCR-4 from a **murine** T-cell cDNA library and have examined its ability to function as an HIV-1 coreceptor. mCXCR-4 was found to be 91% identical to the human **receptor** at the amino acid level, with sequence differences concentrated in extracellular domains. Surprisingly, coexpression of both **hCD4** and mCXCR-4 on either simian or **murine** cell lines rendered them permissive for HIV-1-induced cell fusion, indicating that mCXCR-4 is a functional HIV-1 coreceptor. As with hCXCR-4, coreceptor function was restricted to T-tropic and dual-tropic HIV-1 strains. Ribonuclease protection analysis indicated that mCXCR-4 mRNA was expressed in only two of six **murine** cell lines tested. In contrast, Northern blot analysis of human and **mouse** tissues revealed that **CXCR-4** is widely expressed in both species in vivo. Overall, these data suggest that the reported lack of susceptibility of **hCD4**+ **murine** cells to HIV-1 infection in vitro is, at least in part, due to a lack of mCXCR-4 expression rather than a lack of coreceptor function.

L11 ANSWER 1 OF 20 MEDLINE on STN
TI Angiogenic effects of prostaglandin E2 are mediated by up-regulation of CXCR4 on human microvascular endothelial cells.
AU Salcedo Rosalba; Zhang Xia; Young Howard A; Michael Nelson; Wasserman Ken; Ma Wei-Hong; Martins-Green Manuela; Murphy William J; Oppenheim Joost J
SO BLOOD, (2003 Sep 15) 102 (6) 1966-77.
Journal code: 7603509. ISSN: 0006-4971.

L11 ANSWER 2 OF 20 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
TI Expression of CXC chemokine receptor-4 enhances the pulmonary metastatic potential of **murine** B16 melanoma cells
AU Murakami T.; Maki W.; Cardones A.R.; Fang H.; Tun Kyi A.; Nestle F.O.; Hwang S.T.
SO Cancer Research, (15 DEC 2002), 62/24 (7328-7334), 34 reference(s)
CODEN: CNREA8 ISSN: 0008-5472

L11 ANSWER 3 OF 20 MEDLINE on STN
TI Expression of the human CD4 receptor is sufficient for the transduction of murine T-cells with MLV/HIV pseudotyped vectors.
AU Mitnacht-Kraus Rita; Schnierle Barbara s
SO VIRUS RESEARCH, (2002 Aug) 87 (2) 129-34.
Journal code: 8410979. ISSN: 0168-1702.

L11 ANSWER 4 OF 20 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI Involvement of SDF-1/**CXCR4** interactions in the migration of immature human CD34+ cells into the liver of transplanted NOD/SCID **mice**.
AU Kollet, Orit (1); Spiegel, Asaf (1); Dar, Ayelet (1); Samira, Sarit (1); Chen, Yuan-Qing; Shafritz, David A.; Suriawinata, Jenny; Thung, Swan; Seis-Dedos, Fernando Aranzena; Nagler, Arnon; Revel, Michel (1); Lapidot, Tsvee (1)
SO Blood, (November 16, 2001) Vol. 98, No. 11 Part 1, pp. 549a.
http://www.bloodjournal.org/. print.
Meeting Info.: 43rd Annual Meeting of the American Society of Hematology, Part 1 Orlando, Florida, USA December 07-11, 2001
ISSN: 0006-4971.

L11 ANSWER 5 OF 20 MEDLINE on STN
TI TNF-alpha down-regulates **CXCR4** expression in primary **murine** astrocytes.
AU Han Y; Wang J; He T; Ransohoff R M
SO BRAIN RESEARCH, (2001 Jan 5) 888 (1) 1-10.
Journal code: 0045503. ISSN: 0006-8993.

L11 ANSWER 6 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
TI Leukotriene binding, signaling, and analysis of HIV coreceptor function in mouse and human leukotriene B4 receptor-transfected cells
AU Martin, Viviane; Ronde, Philippe; Unett, David; Wong, Angela; Hoffman, Trevor L.; Edinger, Aimee L.; Doms, Robert W.; Funk, Colin D.
SO Journal of Biological Chemistry (1999), 274(13), 8597-8603
CODEN: JBCHA3; ISSN: 0021-9258

L11 ANSWER 7 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
TI Transgenic **mouse** expressing human CD4 and **fusin** (**CXCR4**)
IN Sawada, Shinichiro
SO PCT Int. Appl., 33 pp.
CODEN: PIXXD2

L11 ANSWER 8 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN

TI Chemokine, hematopoiesis, and development
AU Nagasawa, Takashi
SO Ensho to Men'eki (1998), 6(4), 425-430
CODEN: ENMEFA; ISSN: 0918-8371

L11 ANSWER 9 OF 20 MEDLINE on STN
TI Identification of CCR8, the receptor for the human CC chemokine I-309.
AU Roos R S; Loetscher M; Legler D F; Clark-Lewis I; Baggiolini M; Moser B
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1997 Jul 11) 272 (28) 17251-4.
Journal code: 2985121R. ISSN: 0021-9258.

L11 ANSWER 10 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
TI Shared usage of the chemokine receptor CXCR4 by the feline and human immunodeficiency viruses
AU Willett, Brian J.; Picard, Laurent; Hosie, Margaret J.; Turner, Julie D.; Adema, Karen; Clapham, Paul R.
SO Journal of Virology (1997), 71(9), 6407-6415
CODEN: JOVIAM; ISSN: 0022-538X

L11 ANSWER 11 OF 20 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
TI Role of the first and third extracellular domains of **CXCR-4** in human immunodeficiency virus coreceptor activity
AU Brelot A.; Heveker N.; Pleskoff O.; Sol N.; Alizon M.
SO Journal of Virology, (1997), 71/6 (4744-4751), 44 reference(s)
CODEN: JOVIAM ISSN: 0022-538X

L11 ANSWER 12 OF 20 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
TI STRL33, a novel chemokine **receptor**-like protein, functions as a fusion cofactor for both macrophage-tropic and T cell line-tropic HIV-1
AU Liao F.; Alkhatib G.; Peden K.W.C.; Sharma G.; Berger E.A.; Farber J.M.
SO Journal of Experimental Medicine, (1997), 185/11 (2015-2023), 41 reference(s)
CODEN: JEMEAV ISSN: 0022-1007

L11 ANSWER 13 OF 20 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
TI Inhibition of human immunodeficiency virus fusion by a monoclonal antibody to a coreceptor (**CXCR4**) is both cell type and virus strain dependent
AU McKnight A.; Wilkinson D.; Simmons G.; Talbot S.; Picard L.; Ahuja M.; Marsh M.; Hoxie J.A.; Clapham P.R.
SO Journal of Virology, (1997), 71/2 (1692-1696), 34 reference(s)
CODEN: JOVIAM ISSN: 0022-538X

L11 ANSWER 14 OF 20 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
TI Expression cloning of new **receptors** used by simian and human immunodeficiency viruses
AU Deng H.; Unutmaz D.; KewalRamanl V.N.; Littman D.R.
SO Nature, (1997), 388/6639 (296-300), 31 reference(s)
CODEN: NATUAS ISSN: 0028-0836

L11 ANSWER 15 OF 20 MEDLINE on STN
TI The role of topoisomerase I in HIV-1 replication.
AU Takahashi H; Tatsumi M; Matsuda M; Nagashima K; Kurata T; Hall W W
SO LEUKEMIA, (1997 Apr) 11 Suppl 3 113-5.
Journal code: 8704895. ISSN: 0887-6924.

L11 ANSWER 16 OF 20 MEDLINE on STN
TI The role of topoisomerase I in HIV-1 replication.
AU Takahashi H; Tatsumi M; Matsuda M; Nagashima K; Kurata T; Hall W W
SO LEUKEMIA, (1997 Apr) 11 Suppl 3 26-8.
Journal code: 8704895. ISSN: 0887-6924.

L11 ANSWER 17 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
TI Molecular cloning and characterization of a **murine** pre-B-cell growth-stimulating factor/stromal cell-derived factor 1 receptor, a **murine** homolog of the human immunodeficiency virus 1 entry coreceptor **fusin**
AU Nagasawa, Takashi; Nakajima, Toshihiro; Tachibana, Kazunobu; Iizasa, Hisashi; Bleul, Conrad C.; Yoshie, Osamu; Matsushima, Kouji; Yoshida, Nobuaki; Springer, Timothy A.; Kishimoto, Tadamitsu
SO Proceedings of the National Academy of Sciences of the United States of America (1996), 93(25), 14726-14729
CODEN: PNASA6; ISSN: 0027-8424

L11 ANSWER 18 OF 20 LIFESCI COPYRIGHT 2003 CSA on STN
TI Fusin - A place for HIV-1 and T4 cells to meet
AU Dimitrov, D.S.
SO NAT. MED., (1996) vol. 2, no. 6, pp. 640-641.
ISSN: 1078-8956.

L11 ANSWER 19 OF 20 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
TI Human immunodeficiency virus type-1 susceptible whole cell and microcell hybrids
AU Harrington R.D.; Geballe A.P.
SO Annals of Clinical and Laboratory Science, (1996), 26/6 (522-530)
CODEN: ACLSCP ISSN: 0091-7370

L11 ANSWER 20 OF 20 BIOTECHNO COPYRIGHT 2003 Elsevier Science B.V. on STN
TI **CD4**-induced interaction of primary HIV-1 gp120 glycoproteins with the chemokine **receptor** CCR-5
AU Wu L.; Gerard N.P.; Wyatt R.; Choe H.; Parolin C.; Ruffing N.; Borsetti A.; Cardoso A.A.; Desjardin E.; Newman W.; Gerard C.; Sodroski J.
SO Nature, (1996), 384/6605 (179-183)
CODEN: NATUAS ISSN: 0028-0836

L8 ANSWER 3 OF 12 MEDLINE on STN DUPLICATE 1
AN 2002435120 MEDLINE
DN 22180309 PubMed ID: 12191776
TI Expression of the human CD4 receptor is sufficient for the transduction of murine T-cells with MLV/HIV pseudotyped vectors.
AU Mitnacht-Kraus Rita; Schnierle Barbara s
CS Georg-Speyer-Haus, Institute for Biomedical Research, Paul-Ehrlich-Strasse 42-44, D-60596 Frankfurt/Main, Germany.
SO VIRUS RESEARCH, (2002 Aug) 87 (2) 129-34.
Journal code: 8410979. ISSN: 0168-1702.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200211
ED Entered STN: 20020823
Last Updated on STN: 20021212
Entered Medline: 20021120
AB **Murine** leukemia virus (MLV) can be pseudotyped with a variant of the HIV envelope **gene** encoding the surface glycoprotein gp120-SU and a carboxyl-terminally truncated transmembrane (TM) protein, with only seven cytoplasmic amino acids. MLV/HIV pseudotyped retroviral vectors selectively target human CD4+ cells and can be used as tools to study entry of HIV into cells. **Mouse** T-cells are immune to HIV infection, which is primarily caused by the weak binding affinity of HIV gp120 to the **murine** CD4 receptor. Here we show that expression of the human CD4 receptor in **murine** T-cells is sufficient for syncytia formation with HIV-1 envelope expressing cells and entry of MLV/HIV pseudotyped retroviral vectors. This implies that the **murine CXCR4** receptor is a functional coreceptor for MLV/HIV pseudotyped vectors and confirms previous data that the inability of HIV to replicate in **murine** T-cells is due to a post entry block.

L8 ANSWER 4 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AN 2002:199000 BIOSIS
DN PREV200200199000
TI Involvement of SDF-1/**CXCR4** interactions in the migration of immature human CD34+ cells into the liver of transplanted NOD/SCID **mice**.
AU Kollet, Orit (1); Spiegel, Asaf (1); Dar, Ayelet (1); Samira, Sarit (1); Chen, Yuan-Qing; Shafritz, David A.; Suriawinata, Jenny; Thung, Swan; Seis-Dedos, Fernando Aranzena; Nagler, Arnon; Revel, Michel (1); Lapidot, Tsvee (1)
CS (1) Immunology, Weizmann, Rehovot Israel
SO Blood, (November 16, 2001) Vol. 98, No. 11 Part 1, pp. 549a.
http://www.bloodjournal.org/. print.
Meeting Info.: 43rd Annual Meeting of the American Society of Hematology, Part 1 Orlando, Florida, USA December 07-11, 2001
ISSN: 0006-4971.
DT Conference
LA English
AB Recent studies have demonstrated the potential of hematopoietic stem cells to migrate to the liver, differentiate, and give rise to functional hepatocytes in both human and **murine** transplanted recipients. The chemokine SDF-1, a powerful chemoattractant for immature and mature hematopoietic cells, is widely expressed in many tissues and organs, including the **murine** liver and also by epithelial cells within the fetal human liver. We previously established a crucial role for SDF-1/**CXCR4** interactions in mediating human stem cell homing and

repopulation in transplanted immune deficient NOD/SCID and NOD/SCID/B2mnull **mice**. In addition, preliminary results reveal that SDF-1/**CXCR4** interactions also play a major role in human and **murine** G-CSF induced stem and progenitor cell mobilization. In the current study, we determined the levels of human/**mouse** chimerism within the liver of **mice** 5-7 weeks post transplantation of immature human CB CD34+ cells, and the role of **CXCR4** in migration of human progenitor cells to the liver of these **mice**. Our results demonstrate low levels of human **DNA** detected in the liver of engrafted **mice** (0.1%-0.8%). These findings suggest limited potential of human progenitor cells to migrate or to be retained within the **murine** liver, or alternatively poor proliferative support provided by the **murine** liver for human progenitors. Interestingly, when CB CD34+ transplanted cells were pretreated with the neutralizing anti human **CXCR4** mAb (clone 12G5), human **DNA** could not be detected in the liver of engrafted **mice**, demonstrating that **CXCR4** is also involved in migration of human cells to the **murine** liver. Moreover, anti **CXCR4** Ab pre-treatment of human CD34+ cells from mobilized PBL, significantly reduced (70% inhibition) the levels of human progenitors homing to the **murine** liver 16hr. post transplantation. By immunohistochemical staining of **mouse** liver, we show SDF-1 expression in the fetal liver, including endothelium of d16 embryos, while in the adult liver SDF-1 is expressed exclusively by epithelial cells of the bile ducts, which are in close proximity to the portal veins. Interestingly, we also found SDF-1 in the adult human liver in bile ducts, bile ductules (where liver stem cells are thought to be located) and also in some endothelial cells. The cytokine TNF has been shown to induce priming of the **murine** liver by sensitizing hepatocytes to proliferate in response to growth factors. Recently, we showed that TNF induced human T cell development in transplanted NOD/SCID **mice**. Present results show enhanced levels of human **DNA** in the liver of some **mice** pretreated with TNF and transplanted with human MNC (up to 10%-20%) compared to control **mice** (generally in the range of 0.1%-3%), suggesting that TNF affects also the level of human hematopoietic cells in the **murine** liver. The ability of human hematopoietic cells to differentiate into hepatic epithelial cells within the **murine** liver and the role of SDF-1 produced by the bile duct epithelium in this process are currently under study. Our findings show a major role for SDF-1/**CXCR4** in migration of human progenitor cells to the liver of transplanted **mice**.

L8 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:712336 CAPLUS
DN 129:311707
TI Transgenic **mouse** expressing human CD4 and **fusin** (**CXCR4**)
IN Sawada, Shinichiro
PA Japan Science and Technology Corp., Japan
SO PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9846734	A1	19981022	WO 1998-JP1767	19980417

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO,

NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA,
UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
CM, GA, GN, ML, MR, NE, SN, TD, TG

US 6255555	B1	20010703	US 1998-61048	19980416
AU 9868532	A1	19981111	AU 1998-68532	19980417
EP 975746	A1	20000202	EP 1998-914068	19980417
R: DE, FR, GB				
JP 2000513584	T2	20001017	JP 1998-543750	19980417
PRAI JP 1997-100615	A	19970417		
WO 1998-JP1767	W	19980417		

AB This invention provides a transgenic **mouse** capable of expressing at least two cell surface membrane proteins of human T lymphocytes, transgenes for use in prodn. of the transgenic **mouse**, and a method for producing the transgenic **mouse** using the transgenes. The cell surface membrane proteins of human T lymphocytes are assocd. particularly with human immunodeficiency virus (HIV) infection, and are preferably human CD4 and **fusin** (**CXCR4**). The transgenic **mouse** is able to transmit to its progeny a trait for expression of the cell surface membrane proteins of human T lymphocytes, thus being useful for an animal model for HIV infection and AIDS. One construct was prepd. with human **CXCR4** fused to a **murine** CD4 **gene** contg. enhancer, promoter, and silencer elements as well as a SV40 polyadenylation signal. Another construct contained the human CD4 **gene** with **murine** CD4 enhancer. Transgenic **mice** were produced by introducing both constructs into fertilized eggs by microinjection. Human CD4 and **fusin** were expressed on **murine** CD4+ T lymphocytes.

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:406366 CAPLUS
DN 129:80274
TI Chemokine, hematopoiesis, and development
AU Nagasawa, Takashi
CS Res. Lab., Osaka Med. Cent. Matern. Child Health, Izumi, 590-02, Japan
SO Ensho to Men'eki (1998), 6(4), 425-430
CODEN: ENMEFA; ISSN: 0918-8371
PB Sentan Igakusha
DT Journal; General Review
LA Japanese
AB A review with 17 refs. This review focuses on characterization of stromal cell-derived factor-1/ pre-B-cell growth stimulating factor (SDF-1/PBSF). Expression of the SDF-1/PBSF **gene** has been discussed. Physiol. function of SDF-1/PBSF has been describes including the data from the studies using SDF-1/PBSF-deficient **mice**. Furthermore, identification of SDF-1/PBSF receptor, **CXCR4** as a **murine** homolog of the human immunodeficiency virus 1 entry coreceptor, **fusin**, has also been reviewed. Finally, the significance of **CXCR4** being a **murine** homolog of **fusin**, has been discussed.

L8 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1997:534140 CAPLUS
DN 127:246942
TI Two **murine** homologues of the human chemokine receptor **CXCR4** mediating stromal cell-derived factor 1.alpha. activation of Gi2 are differentially expressed in vivo

AU Moepps, Barbara; Frodl, Reinhard; Rodewald, Hans Reimer; Baggiolini, Marco; Gierschik, Peter
CS Department Pharmacology Toxicology, University Ulm, Ulm, D-89081, Germany
SO European Journal of Immunology (1997), 27(8), 2102-2112
CODEN: EJIMAF; ISSN: 0014-2980
PB Wiley-VCH
DT Journal
LA English
AB Previous results have shown that pertussis toxin-sensitive Gi proteins are likely to be involved in regulating the emigration of mature thymocytes from the thymus. A low stringency polymerase chain reaction (PCR) approach was used to identify Gi protein-coupled cell surface receptors expressed in **mouse** thymocytes. Among the 10 G protein-coupled receptor cDNA isolated, the most prevalent cDNA encoded a polypeptide highly homologous to the human leukocyte-expressed 7-transmembrane-domain receptor LESTR, also referred to as HIV entry cofactor, **fusin**, or **CXCR4**. Isolation of full-length cDNA revealed that alternative RNA splicing produces transcripts encoding 2 isoforms of the **murine** LESTR, differing by the presence of 2 amino acids in the N-terminal portion of the longer protein. Functional reconstitution of recombinant **murine** LESTR with recombinant heterotrimeric G proteins in baculovirus-infected insect cells showed that both receptor variants mediate stromal cell-derived factor la activation of the pertussis toxin-sensitive G protein Gi2. Receptor subtype-specific reverse transcriptase-PCR anal. revealed differential expression of the 2 receptor mRNA in lymphoid tissues and brain, indicating that distinct functions are mediated by the 2 receptor isoforms in these tissues. The presence of LESTR mRNA in very early thymocytes as well as in immature (CD4+ CD8+) thymocytes suggests that both CD4 and LESTR are co-expressed and render developing human thymocytes susceptible for HIV entry, which may affect generation of both CD4+ CD8- and CD4- CD8+ mature lineages.

L20 ANSWER 1 OF 4 MEDLINE on STN
AN 2001280096 MEDLINE
DN 96701560 PubMed ID: 11363488
TI NIH scientists find cofactor for **HIV** entry. National Institutes of Health.
AU James J S
SO AIDS TREATMENT NEWS, (1996 May 17) (no 247) 1, 6.
Journal code: 8809835. ISSN: 1052-4207.
CY United States
DT (NEWSPAPER ARTICLE)
LA English
FS AIDS
EM 199607
ED Entered STN: 20010529
Last Updated on STN: 20020222
Entered Medline: 19960701
AB The discovery of a **fusin** protein by researchers at the National Institute of Allergy and Infectious Diseases (NIAID) is considered to be a major advance in the understanding of how **HIV** disease develops. The discovery does not seem to have immediate implications for treatment. **Fusin** works together with the CD4 protein to allow **HIV** to fuse with and enter CD4 cells (T-helper cells). The research was initiated with laboratory **mice**. **Mouse cells** were changed genetically so that they would express a human CD4. **Fusin** exists naturally in human cells and is thought to have a normal function, although this function is yet unknown.

L20 ANSWER 2 OF 4 MEDLINE on STN
AN 1998001346 MEDLINE
DN 98001346 PubMed ID: 9343181
TI Neutralizing antibodies against the V3 loop of human **immunodeficiency** virus type 1 gp120 block the CD4-dependent and -independent binding of virus to cells.
AU Valenzuela A; Blanco J; Krust B; Franco R; Hovanessian A G
CS Unite de Virologie et d'Immunologie Cellulaire, Institut Pasteur, Paris, France.
SO JOURNAL OF VIROLOGY, (1997 Nov) 71 (11) 8289-98.
Journal code: 0113724. ISSN: 0022-538X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; AIDS
EM 199711
ED Entered STN: 19971224
Last Updated on STN: 19971224
Entered Medline: 19971113
AB The CD4 molecule is an essential receptor for human **immunodeficiency** virus type 1 (**HIV**-1) through high-affinity interactions with the viral external envelope glycoprotein gp120. Previously, neutralizing monoclonal antibodies (MAbs) specific to the third hypervariable domain of gp120 (the V3 loop) have been thought to block **HIV** infection without affecting the binding of **HIV** particles to CD4-expressing human cells. However, here we demonstrate that this conclusion was not correct and was due to the use of soluble gp120 instead of **HIV** particles. Indeed, neutralizing anti-V3 loop MAbs inhibited completely the binding and entry of **HIV** particles into CD4+ human cells. In contrast, the binding of virus was only partially inhibited by neutralizing anti-CD4 MAbs against the gp120 binding site in CD4, which, like the anti-V3 loop MAbs, completely inhibited **HIV** entry and infection. Nonneutralizing control MAbs

against either the V3 loop or the N or C terminus of gp120 had no significant effect on **HIV** binding and entry. **HIV**-1 particles were also found to bind human and **murine cells** expressing or not expressing the human CD4 molecule. Interestingly, the binding of **HIV** to CD4+ **murine cells** was inhibited by both anti-V3 and anti-CD4 MAbs, whereas the binding to human and **murine** CD4- cells was affected only by anti-V3 loop MAbs. The effect of anti-V3 loop neutralizing MAbs on the **HIV** binding to cells appears not to be the direct consequence of gp120 shedding from **HIV** particles or of a decreased affinity of CD4 or gp120 for binding to its surface counterpart. Taken together, our results suggest the existence of CD4-dependent and -independent binding events involved in the attachment of **HIV** particles to cells; in both of these events, the V3 loop plays a critical role. As **murine cells** lack the specific cofactor **CXCR4** for **HIV** -1 entry, other cell surface molecules besides CD4 might be implicated in stable binding of **HIV** particles to cells.

L20 ANSWER 3 OF 4 MEDLINE on STN
AN 97404731 MEDLINE
DN 97404731 PubMed ID: 9261443
TI **Murine CXCR-4** is a functional coreceptor for T-cell-tropic and dual-tropic strains of human **immunodeficiency** virus type 1.
AU Bieniasz P D; Fridell R A; Anthony K; Cullen B R
CS Howard Hughes Medical Institute, Duke University Medical Center, Durham, North Carolina 27710, USA.
SO JOURNAL OF VIROLOGY, (1997 Sep) 71 (9) 7097-100.
Journal code: 0113724. ISSN: 0022-538X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; AIDS
EM 199709
ED Entered STN: 19970926
Last Updated on STN: 19980206
Entered Medline: 19970917
AB The human chemokine receptor hCXCR-4 serves as a coreceptor for T-cell-tropic (T-tropic) and dual-tropic strains of human **immunodeficiency** virus type 1 (**HIV**-1). We have isolated a homolog of hCXCR-4 from a **murine** T-cell cDNA library and have examined its ability to function as an **HIV**-1 coreceptor. mCXCR-4 was found to be 91% identical to the human receptor at the amino acid level, with sequence differences concentrated in extracellular domains. Surprisingly, coexpression of both hCD4 and mCXCR-4 on either simian or **murine cell** lines rendered them permissive for **HIV**-1-induced cell fusion, indicating that mCXCR-4 is a functional **HIV**-1 coreceptor. As with hCXCR-4, coreceptor function was restricted to T-tropic and dual-tropic **HIV**-1 strains. Ribonuclease protection analysis indicated that mCXCR-4 mRNA was expressed in only two of six **murine cell** lines tested. In contrast, Northern blot analysis of human and **mouse** tissues revealed that **CXCR-4** is widely expressed in both species in vivo. Overall, these data suggest that the reported lack of susceptibility of hCD4+ **murine cells** to **HIV** -1 infection in vitro is, at least in part, due to a lack of mCXCR-4 expression rather than a lack of coreceptor function.

L20 ANSWER 4 OF 4 MEDLINE on STN
AN 97296517 MEDLINE
DN 97296517 PubMed ID: 9151712

TI **CXCR4/fusin** is not a species-specific barrier in **murine cells** for **HIV**-1 entry.

AU Tachibana K; Nakajima T; Sato A; Igarashi K; Shida H; Iizasa H; Yoshida N; Yoshie O; Kishimoto T; Nagasawa T

CS Department of Immunology, Research Institute, Osaka Medical Center for Maternal and Child Health, Osaka 590-02, Japan.

SO JOURNAL OF EXPERIMENTAL MEDICINE, (1997 May 19) 185 (10) 1865-70. Journal code: 2985109R. ISSN: 0022-1007.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals; AIDS

EM 199706

ED Entered STN: 19970709
Last Updated on STN: 20000303
Entered Medline: 19970624

AB Since some **murine cells** expressing human CD4 fail to internalize **HIV**-1, another block was thought to be located at the level of viral entry in addition to CD4. Recently, **CXCR4** was shown to function as a coreceptor for T cell line-tropic **HIV** -1 entry. Here we demonstrated that cells expressing **murine CXCR4** and human CD4 fused with cells expressing the env proteins derived from T cell line-tropic **HIV**-1 and were infected with T cell line-tropic **HIV**-1 strains. In contrast, the same cells were not infected with chimeric clones constructed by substitution of monocyte- or macrophage-tropic strain-derived env region or V3 region into T cell line-tropic **HIV**-1, indicating V3 loop of envelope protein is required for **murine** CXCR4mediated **HIV**-1 entry. We conclude that **murine CXCR4** is not a species specific barrier to the entry of T cell line-tropic **HIV**-1.